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EXAMINER				
VASISTH, VISHAL V				
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1797				
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12/22/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/539,375

**Applicant(s)**

FUJITA ET AL.

**Examiner**

VISHAL VASISTH

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicants' amendment of 9/25/2008 is to all of the claims 1-7. The amendments to claim 1 are to the substance of the claim, but the amendments to claims 2-6 do not change the scope or substance of the claims. The amendment to claim 1 is considered below and does not overcome the 35 USC 103 rejection set forth in the office action mailed out 6/26/2008.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

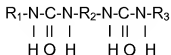
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1-3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokouchi et al., US Patent No. 5,840,666 (hereinafter referred to as US '666) as evidenced by Malec et al., US Patent No. 3,637,501 (hereinafter referred to as US '501).

US '666 discloses a grease composition effective against flaking of rolling bearings and suitable for application to rolling bearings used in electrical parts and auxiliary engine equipment of automobiles. The grease composition can also be used in sealed rolling bearings containing grease (Col. 1/ L. 4-15). The grease composition comprises; a base oil such as an aromatic ester oil which includes trioctyl trimellitate, tridecyl trimellitate, and tetraoctyl pyromellitate (Col. 6/L. 13-18, as disclosed in claims 1-3). The base oils of US '666 can be used individually (Col. 6/L. 32) and based on the amount of thickener and inorganic filler in examples 1 -9 of columns 9-10, table 1 it is evident that the base oil component is present in an amount that is greater than 30 wt% (aromatic ester oil present in an amount of 30% by mass or more based on the whole amount of the base oil as recited in claim 1) (Col. 9-10/Table 4 and Claim 4 of US '666). US '666 does not explicitly disclose the pour point for any of the base oils that can be used in the grease composition. US '666 does, however, disclose a trimellitic and a pyromellitic ester oil being derived from a hydrocarbon group having from 6 to 10 carbon atoms and therefore the pour point would be an inherent property for the abovementioned base oils and thus would read on the pour point limitation of claim 1 as amended. This is further evidenced by US '501 which discloses complex esters comprising a polyol, an aromatic polycarboxylic acid such as trimellitic and pyromellitic and an aliphatic monocarboxylic acid having from 2-12 carbon atoms which are used as base oils in lubricating bearings (see Abstract) and are used as such because of their low pour points as shown by column 6, line 32-76. The pour point when trimellitic is used is -55°C and lower which overlaps the range as recited in claim 1.

The grease composition further comprises, a diurea thickener compound such as the one claimed in claim 1 (Col. 4-5/L. 62- 35), in an amount between 9 to 22 wt% (in an amount form 5 to 35 % by mass) (Col. 9-10/Tables 4 and 5). The diurea thickener of US '666 has the following structure:



wherein R<sub>1</sub> and R<sub>3</sub> each independently represent alkylcyclohexyl group having 7 to 12 carbon atoms or alkyl group having 8 to 20 carbon atoms, and R<sub>2</sub> is a divalent hydrocarbon group containing an aromatic ring having at least 8 carbon atoms (Col. 4-5/L. 62-35). The prepared grease composition is sealed up in a sealed type deep ball groove bearing with a contact rubber seal (Figure 1), the amount of the grease composition to be sealed is selected from the range generally employed in these types of roller bearings and as disclosed in claims 6 and 7 (Col. 1/L. 18-37 and Col. 6/L. 61-65).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US '666 in view of Iso et al., US Patent Application Publication No. 2002/0076125 (hereinafter referred to as US '125)

The grease composition of US '666 does not disclose a carbon black or carbon nano tube used as conductive powder within the composition. US '666 does, however, disclose the use of inorganic fillers as part of the final composition which includes diamonds and graphite (Col. 3/L. 43-49). US '666 also does not include carboxylic

acid/carboxylate or amine based rust preventatives in an amount from 0.2 to 10% by mass and/or from 0.1 to 99% by mass of the second rust preventative.

US '125 discloses a rolling bearing and a grease composition for use in automobile electrical equipment or an electromagnetic clutch for an automobile air conditioner (Para [0001]) comprising, an aromatic ester oil such as those claimed in US '666, tetraoctylpyromellitate (Para. [0025]), and diurea thickener compounds (Para. [0027]), and conductive substances such as carbon black and carbon nano tube (Para. [0029]-[0030]). The object of the rolling bearing comprising an inner ring, an outer ring, a plurality of rolling elements rotatably retained between the inner and outer rings and a grease composition which is sealed in a bearing space defined by the inner and outer rings and the rolling elements (Para. [0007]). Other additives can be added to the finished grease composition (Para. [0034]). It would have been obvious to one of ordinary skill in the art at the time of invention to modify US '666 with carbon black or a carbon nano tube conductive material in order to increase the conductive properties of the grease composition.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over US '666 in view of Koizumi et al., US Patent No. 6,251,841 (hereinafter referred to as US '841).

The final grease composition of US '666 includes additives such as; antioxidants, rust preventatives, metal deactivators, etc (Col. 6/L. 34-49). The rust preventatives can be present in a total amount of up to 20 wt% of the finished grease composition and include, sorbitan esters, but does not include either of carboxylic acid or a carboxylate or amine based rust preventatives.

US '841 relates to a grease composition having improved rust-proofing properties. The grease composition of US '841 is for use in lubricated parts such as rolling bearing for automobile electric parts (Col. 1/L. 4-12). The grease composition comprises, ester based synthetic oils, and diurea thickeners, and can apply regardless of the kind of lubricating base oil and thickener (Col. 4/L. 13-32). The grease composition further comprises a lipophilic organic inhibitor such as carboxylic acid or carboxylate (Col. 2-3/L. 59-7) which acts as a rust preventative when used in combination with a hydrophilic organic inhibitor (Col. 2/L. 36-40), such as lanolin fatty acid amine ester and lanolin fatty acid alkanolamide (Col. 3/L. 18-28). Both the lipophilic and hydrophilic organic inhibitors are present in an amount from 0.1 to 10 wt% respectively based on the total weight of the grease composition (Col. 3/L. 63-67). It would have been obvious to one of ordinary skill in the art at the time of invention to modify US '666 with rust preventatives to reduce the amount of wear to engine components.

### ***Response to Arguments***

7. Applicants' arguments filed 9/25/2008 have been fully considered but they are not persuasive. In this case, applicants argue that there is no mention of the amount of an aromatic ester oil in the reference. There is, however, a mention as to the amounts of all the other components of the invention and from this information one can extrapolate the amount of base oil in the composition. The examiner used a 35 USC 103 rejection as opposed to a 102(b) rejection was because the ranges were

overlapping and not encompassing and therefore a 103 rejection was more appropriate even though the reference was used alone.

Applicants argue that the present invention provides unexpected results and point to Tables 1 and 2 of the instant specification in order to further their point. However, the results from the table are not commensurate with the scope of the claims. For example, claim 1 gives a range for the diurea compound as being between 5 to 35 mass% but the range in the tables is only between 12 and 24 mass%. Furthermore the base oil amount in terms of mass% is 30 mass% or more, wherein the table the aromatic ester oils are present in much higher amounts. Also, amended claim 1 does not address the rust preventative that is present in the compositions as presented in Tables 1 and 2. The claims are written broadly enough that it is likely that some of the comparative examples from the specification (non-inventive examples) fall within the claimed range as recited in amended claim 1, therefore unexpected results have not been shown across the scope of what is claimed. All of the applicants' arguments have been considered and are not considered persuasive.

### ***Conclusion***

8. Applicants' amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VISHAL VASISTH whose telephone number is (571)270-3716. The examiner can normally be reached on M-R 8:30a-5:30p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Ellen M McAvoy/

Primary Examiner, Art Unit 1797

VVV